

Notice of Allowability

Application No.

10/055,256

Examiner

Baisakhi Roy

Applicant(s)

DALE ET AL.

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3737

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to after-final filed on 6/20/07.
2. ☒ The allowed claim(s) is/are 46-48, 50-52, 55-57, and 92-100, 102.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.


Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


ELENI MANTIS MERCADER
SUPERVISORY PATENT EXAMINER

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Anita Bowles and David Burns (Reg. No. 46,590) on 8/20/07.

Cancel claims 69-74, 76-82, 84-89, 92, and 101.

Add new claim 102.

102. A system for obtaining information about a subject, the system comprising:

a processor adapted to receive information obtained from a magnetic resonance scan and read a prior probability MRI based atlas to determine a tissue type

the prior probability MRI based atlas comprising:

a plurality of nodes corresponding to a plurality of voxels representing spatial locations of a subject, each of said nodes configured to store at least one magnetic property value as determined by magnetic resonance imaging at least one tissue type prior probability value corresponding to a tissue type of a voxel, thereby determining the tissue type.

The following is an examiner's statement of reasons for allowance: the prior art of record does not disclose or render obvious a prior probability MR based atlas that contains values representative of magnetic properties of a magnetic resonance (MR) scan and prior probability data relating to tissue type for at least one subject where the tissue type prior probability is derived from measurements of at least one subject, and

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preferentially the tissue type prior probability may be derived from measurements of a plurality of subjects and this is the probability that a particular voxel contains a particular tissue type based on the tissue type found in the particular voxel for each subject used to form the atlas. The Miller et al. article describes a procedure in which an elastic model of the brain anatomy is driven by data-overlap probabilities to warp brain atlas images onto MRI slice or section images. The Miller reference is generally directed to forming an anatomical textbook from measurements conducted on a single patient, and applying the anatomical textbook to studies of a particular patient by using transformations to deform the spatial configuration of the studies of the particular patient until they register with the anatomical textbook. Once the most realistic (most probable) transformations have been determined, studies of the particular patient may be mapped onto the anatomical textbook allowing identification of brain structures. However, the Miller reference fails to disclose "a prior probability MRI based atlas" that includes data from a plurality of subjects. The Miller reference discusses probabilistic transformations, but the Miller reference does not discuss prior probabilities and thus, Miller does not disclose a prior probability MRI based atlas.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Baisakhi Roy whose telephone number is 571-272-7139. The examiner can normally be reached on M-F (7:30 a.m. - 4p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian L. Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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